Remarks/Arguments

Reconsideration of this application is requested.

Claim Status

Claims 1-7 are pending and are amended.

Telephone Interview Summary

A telephone interview was conducted in this application on November 25, 2009 between the Examiner and applicant's representative Robert Wu. Applicant thanks the Examiner for the courtesies extended during that interview. In the interview, agreement was reached that the claim amendments overcome the non-art based rejections for at least the reasons summarized below. Furthermore, agreement was reached that amendments to the claims persuasively traverse the obviousness rejections, as discussed below.

Claim Objections

Claims 1-7 are objected to as a hybrid claim directed towards both a system and a set of software instructions embedded on a computer readable medium. In response, claim 1 is amended to be directed towards a computer readable storage medium encoded with a project assessment program executed by a computer. Claim 1 is further amended as suggested in the Action to correct minor informalities.

Claim Rejections – 35 USC 112

Claims 1-7 are rejected under 35 USC 112, second paragraph, as indefinite. In response, applicant traverses the rejections and amends claim 1 to more clearly and distinctly claim the subject matter of the invention.

First, page 4 of the Action states that with respect to the feature of "selecting from the group of schemes consisting of...", the detailed steps for the schemes of estimation of frequency distribution, estimation of mutual-correlation of estimated value pattern, estimation of standard deviation, etc. are not recited in the claim. Therefore, the Office has not given those features patentable weight and asserts that those features are vague and indefinite. Applicant respectfully disagrees as MPEP 2143.03 requires that all claim limitations must be considered, even indefinite limitations. In particular, "[a] claim limitation which is considered indefinite cannot be disregarded."

Furthermore, applicant submits that the breadth of a claim should not be equated with indefiniteness. *In re Miller, 441* F.2d 689, 169 USPQ 597 (CCPA 1971) (MPEP 2173.04). "If the scope of the subject matter embraced by the claims is clear, and if applicants have not otherwise indicated that they intend the invention to be of a scope different from that defined in the claims, then the claims comply with 35 USC 112, second paragraph." Applicant submits that the scope of the claims is definite, as the metes and bounds of the claimed estimation schemes have a clear and precise understanding to those in the art. However, this feature is amended for clarity to recite "selecting at least one scheme by a user input from the group of schemes...".

Next, the feature of "forecast of the variations of the plurality of parameters are obtained by using random numbers" is asserted as vague and indefinite because it is not clear how "any random number" could obtain the forecast of variations. In response, claim 1 is amended to recite, "the probability distribution variations are determined by using standard normalized random numbers computed by a Molo algorithm," as suggested in the Action.

Furthermore, the feature of "estimated values for variations" of line 17 has been interpreted to be the same as the "probability distribution variations" of line 15. In response, claim 1 is amended to recite "computing estimated values of variations in at least two parameters of said processes," which is not the same as the "probability distribution variations". Similarly, the claimed "forecast of variations," the implementation of "computing estimated values," and "assessing the project by determining," are asserted on pages 5 and 6 of the Action as indefinite. In response, claim 1 is amended as follows:

> ...computing estimated values of variations in at least two parameters of said processes using the process planning

> information, the up-to-date actual process information and the forecast model information,
>
> wherein the estimated values of variations are different from the probability distribution variations, wherein the estimated values of variations are computed using the probability distribution variations, the probability distribution variations are determined by using standard normalized random numbers computed by a Molo algorithm,
>
> assessing the project by determining one of either said estimated values of parameters of at least one process of the processes included in the project, or a comparison of said estimated values of variations to a predetermined criterion...

The process planning information, up-to-date actual process information and forecast model information are now functionally involved in claim 1 and must be given patentable weight (see page 9; Office Action). Moreover, claim 1, line 10 is amended to recite a "selected scheme" rather than a "selected assessment scheme," in order to provide proper antecedent basis. A selected scheme is first introduced implicitly in line 6 of claim 1.

With respect to claim 5 and the feature of an "arbitral process", applicant submits that page 15, line 23 of the replacement specification defines the arbitral process "that is a component of the project is selected." Claim 5 further recites "computing...estimated values... of the objective processes excluding an arbitral process selected by an user." Support for excluding an arbitral process is also found in applicant's replacement specification at page 20, line 29 to page 21, line 4. Therefore, claim 5 is clear and definite, finds support in the specification, and in view of the fact that applicant is entitled to be its own lexicographer (MPEP 2173.01), applicant traverses the rejections.

For these reasons, the rejections under 35 USC 112 should be withdrawn.

Claim Rejections – 35 USC 101

Claims 1-7 are rejected under 35 USC 101 as directed to non-statutory subject matter. As discussed above, claims 1-7 are now exclusively directed to a program embedded in a computer readable storage medium executed by a computer, which is statutory subject matter.

Claim Rejections – 35 USC 103

Claims 1, 3 and 4 are rejected under 35 USC 103(a) as obvious over Koller US 2002/0103793) in view of Goldman (US 6,952,688) and Njemanze (US 7,219,239). Claims 2, 5, 6, and 7 are rejected as obvious over Koller in view of Njemanze and Ishizuku (US 6,594,598). In response, applicant traverses the rejections.

Claim 1 is substantially amended and now recites:

> A computer readable storage medium encoded with a project assessment program for assessing a project comprising a plurality of processes when executed by a computer computing forecasts of said project based on a set of information, comprising:
>
> selecting at least one scheme by a user input from the group of schemes comprising of an estimation of frequency distribution, an estimation of mutual-correlation of estimated value pattern, an estimation of standard deviation, an estimation of time-series information, and an estimation of fit to a predetermined pattern;
>
> based on the at least one selected scheme, retrieving:
>
> process planning information of each process included in the project;
>
> up-to-date actual process information of said each process of the project, forecast model information of said each process of the project defined as ~~a~~ probability distribution variations of a plurality of parameters of said processes, wherein the probability distribution variations are quantitative values of the project,

computing estimated values of variations in at least two parameters of said processes using the process planning information, the up-to-date actual process information and the forecast model information, wherein the estimated values of variations are different from the probability distribution variations, wherein the estimated values of variations are computed using the probability distribution variations, the probability distribution variations are determined by using standard normalized random numbers computed by a Molo algorithm,

assessing the project by determining one of either said estimated values of parameters of at least one process of the processes included in the project, or a comparison of said estimated values of variations to a predetermined criterion;

wherein in the scheme of the estimation of mutual-correlation of estimated value pattern,

a first process is selected from the processes of the project, estimated values of variations calculated for the first process are put into a sequence, one of estimated values of the variations is set as a first reference estimated value, and other estimated values of the variations of the first process are normalized based on the first reference estimated value so as to obtain a sequence X,

a second process is selected from the processes of the project, estimated values of the variations calculated for the second process are put into a sequence, one of the estimated values of the variations is set as a second reference estimated value, and other estimated values of the variations of the second process are normalized based on the first reference estimated value so as to obtain a sequence Y,

a mutual-correlation between the sequence X and the sequence Y is computed to assess how high the mutual-correlation therebetween is, thereby to find the estimated values of the variations by equation:

$$(\text{Mutual-Correlation})=E((X-E(X))(Y-E(Y)))/(\sqrt{V(X)}\sqrt{(Y)})$$

> wherein, ensemble averages of the sequences X and Y are defined as E(X) and E(Y), and square variances of the sequences X and Y are defined as V(X) and V(Y), respectively.

The cited references do not disclose or suggest these features. First, applicant's mutual correlation equation is neither addressed in the Action nor suggested by the cited references such that a *prima facie* case of obviousness has not been properly set forth. Agreement was reached in the telephone interview that the cited references are silent as to this feature. Applicant further notes that Goldman is cited in the rejection of claim 1, but no discussion of Goldman is otherwise provided. Therefore, applicant is unable to adequately respond to the rejection if Goldman is necessary in rejecting the claims.

Koller is directed to statistical models of relational databases, and in particular, probabilistic relational models (PRMs). Koller fails to teach a scheme of estimation of standard deviation and estimation of time-series information that is based on a user input, as claimed. Also, process planning information, up-to-date actual information and quantitative probability distribution variations are neither disclosed nor suggested.

Furthermore, the probability distribution variations are defined by applicant as quantitative values. Koller, by contrast, teaches an equation (1) that defines a PRM π, which is not a quantitative value. In the claimed feature of "assessing the project," paragraph 0160 of Koller is cited as teaching three variants of PRM models, meaning three embodiments of PRM. However, this disclosure does not appear to be relevant to applicant's claims. Further clarification is respectfully requested. The claim further recites probability distribution variations determined by using random numbers. However, the distribution P_D of Koller is not obtained using random numbers and is instead obtained directly from the data via an imaginary process (paragraph 0251).

Njemanze is directed to the art of capturing intrusion security events. The rationale cited in the Action for combining Koller and Njemanze is that the claimed invention is a simple, predictable combination of elements. However, this rationale requires that one of ordinary skill in the art of project assessment to combine probabilistic relational databases with intrusion event data by a known method where each element performs the same function as it did separately. Applicant disagrees as the references are directed to non-analogous art using different models and problems where the cited elements would not perform the same function as they do individually. In addition, it is unclear if the results of the combination behaves as a relevant or predictable model to one in the field of project assessment.

Ishizuku is cited for its relevance to controlling a production line. However, Ishizuku does not remedy the deficiencies of Koller and Njemanze with respect to claim 1, and is not relied on in this manner by the Action. Since Koller, Goldman, Njemanze and Ishizuku fail to disclose or suggest each and every element of claim 1, claim 1 and claims 2-7 dependent thereon are not obvious over Koller, Goldman, Njemanze and Ishizuku. The rejections under 35 USC 103 of claims 1-7 should therefore be withdrawn.

Conclusion

This application is now believed to be in condition for allowance. The Examiner is invited to telephone the undersigned to resolve any issues that remain after entry of this amendment.

Any fees due with this response may be charged to our Deposit Account No. 50-1314.

Respectfully submitted,
HOGAN & HARTSON L.L.P.

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By:________________________
Troy M. Schmelzer
Registration No. 36,667
Attorney for Applicant(s)

1999 Avenue of the Stars, Suite 1400
Los Angeles, California 90067
Phone: 310-785-4600
Fax: 310-785-4601